What is claimed is:

1. cable employing an oxide superconductor, comprising:

a flexible core member;

a plurality of tape-shaped oxide superconducting wires being laid on said core member with tension of not more than 2 kgf/mm^2 wherein each tape-shaped superconducting wire consisting essentially of an oxide superconductor and a stabilizing metal covering the same,

said plurality of tape-shaped superconducting wires forming a plurality of layers each being formed by laying a plurality of said tape-shaped superconducting wires in a side-by-side manner,

said plurality of layers being successively stacked on said core member without an insulating layer between the plurality of layers and the core member,

said core member providing said superconducting cable with flexibility,

said superconducting cable capable of maintaining a superconducting state at the temperature of liquid nitrogen,

said wires having substantially homogeneous superconducting phases along the longitudinal direction of said wire,

the c-axes of said superconducting phases being oriented substantially in parallel with the direction of thickness of said wire,

said superconducting wires being formed by grains aligned in parallel extending along the longitudinal direction of said wire,

said grains being stacked along the direction of thickness of said wire.

2. A superconducting cable for alternating current having phase and neutral conductors, cooling channels, and an outer encircling shield, wherein a common neutral is provided for all three phase conductors and the phase conductors and the cooling channels are arranged concentrically.

3. A superconducting cable according to Claim 2 wherein the first phase conductor of the cooling channel is bounded by the conducting cable core and an insulation layer of defined thickness is provided between the first and the second phase conductors, the second and the third phase conductors and between the third phase conductor and the neutral conductor respectively, a cooling channel is provided as an annular channel between the neutral conductor, and an outer insulation manufactured of a superconducting material.

4. A superconducting cable according to Claim 2 wherein each phase conductor is manufactured of superconducting tapes which consist of flat rolled sleeves of an oxygen-porous metal filled with a ceramic superconducting material.

5. A superconducting cable according to Claim 2 wherein the phase conductors are manufactured as tapes comprised of silver sleeves filled with a ceramic superconducting material.

6. A superconducting cable according to Claim 2 wherein liquid nitrogen is conducted through channels for cooling of the superconducting phases.

7. A superconducting cable according to Claim 2 wherein the neutral conductor is manufactured of copper.

8. A superconducting cable according to Claim 2 wherein the insulation layers between the phase conductors are manufactured of polyethylene or polypropylene.

9. A method of terminating the superconducting cable of claim 2 comprising the steps of connecting the three-phases to copper pipe phase conductors at ambient temperature, and connecting the shield to a copper shield conductor at ambient temperature.

10. The method of claim 9 including cooling the termination from the exterior.

11. The method of claim 9 including the step of cooling the termination from the interior.

12. The method of claim 10 wherein the cooling step is sufficient to cool the termination to a temperature low enough to ensure that no bubbles would nucleate in any dielectric insulation surrounding the superconducting material.

13. The method of claim 9 wherein the termination's dielectric material is a ceramic-filled thermosetting plastic.

14. The method of claim 9 including the step of splicing the superconducting cable to the termination in an area where the temperature is consistent with the cable operation temperature.

15. The method of 14 including the step of cooling the termination opposite the end connected to the superconducting cable to ambient temperature.

16. The method of claim 15 wherein the ambient temperature end of the termination is cooled by a fluid.

17. The method of claim 16 wherein the ambient temperature end of the termination is cooled by water.

18. The method of claim 16 wherein the ambient temperature end of the termination is cooled by glycol and water.

19. The method of claim 10 wherein the three-phase termination is cooled separately from the superconducting cable.